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South Carolina
DHEC
Department of Health and Environmental Control

MEMORANDUM

TO: G. Kendall Taylor, P.G., Division Director
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Bureau of Land and Waste Management

FROM: Jack Gelting, Section Manager
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SUBJ: Evaluation of T&S Brass' status under the RCRIS Corrective Action Environmental Indicator Event Codes (CA725 and CA750)
EPA I.D. Number SCD 002038545

DATE: September 25, 1998

I. PURPOSE OF MEMO

This memorandum is written to formalize an evaluation of T&S Brass' status relative to the following corrective action event codes defined in the Resource Conservation and Recovery Information System (RCRIS):

1) Human Exposures Controlled Determination (CA725),

2) Groundwater Releases Controlled Determination (CA750).

These event codes are applicable according to the definitions and guidance provided by the Office of Solid Waste (OSW) in the July 29, 1994, memorandum to the Regional Waste Management Division Directors, and clarification provided by USEPA Region IV in October 1997.

The State of South Carolina became authorized, in January 1995, for implementing those portions of RCRA covered under the HSWA Corrective Action process. The recommendations provided in this document have been generated in cooperation with the USEPA Region IV staff through the use of EPA's current Environmental Indicator ranking system.

II. HUMAN EXPOSURES CONTROLLED DETERMINATION (CA725)

There are five (5) national status codes under CA725. These status codes are:

1) YE Yes, applicable as of this date.

2) NA Previous determination no longer applicable as of this date.

3) NC No control measures necessary.

4) IN More information needed.

5) NO Facility does not meet definition.

Note that CA725 is designed to assess the potential for human exposures over the entire facility (i.e., the code does not evaluate specific actions undertaken at individual SWMUs). Therefore, every area at the facility must meet the definition before a YE, or NC, status code can be entered for CA725. The NO status code should be entered if there are current unacceptable risks to human health due to releases of hazardous wastes or hazardous constituents from any SWMU(s) or AOC(s). The IN status code is designed to cover those cases where insufficient information is available to make an informed decision on whether human exposures are controlled. If an evaluation determines that there are both unacceptable and uncontrolled current risks to human health at the facility (NO) along with insufficient information on contamination or exposures at the facility (IN), then the priority for the EI recommendation is the NO status code.

This particular CA725 evaluation is the first evaluation performed by DHEC for T&S Brass. Because assumptions have to be made as to whether human exposures to current media contamination are plausible and, if plausible, whether controls are in place to address these plausible exposures, this memo first examines each environmental medium (i.e., soil, groundwater, surface water, air) at the entire facility including any offsite contamination emanating from the facility rather than from individual areas or releases. After this independent media by media examination is presented, a final recommendation is offered as to the proper CA725 status code for T&S Brass.

The following discussions, interpretations and conclusions on contamination and exposures at the facility are based on the following reference documents: 1998 Semi-Annual Report (Davis & Floyd) dated July 1998, 1997 Groundwater Corrective Action Report (Davis & Floyd) dated March 1998, the September 1988 Post-Closure Permit Application (portions revised, permit appealed in 1990) as well as notes and observations made on-site on June 24, 1998. Note we have no record of a formal RCRA Facility Investigation.

III. FACILITY SUMMARY

T&S Brass is located on Old Buncombe Road in Traveler's Rest, S.C. in Greenville County. Metal plating processes have contributed contamination to groundwater via an emergency wastewater pretreatment lagoon area. Wastewater generated in the manufacturing process is normally pretreated in on-site facilities and then discharged to the Western Carolina Regional Sewer Authority.

The facility is surrounded by a fence and security exists to guard the entrance to manufacturing areas of the plant. T&S Brass no longer operates a land-based hazardous waste treatment unit at the Traveler's Rest facility. The Post-Closure permit was appealed with regard to the regulated status of the waste units. The company conducts groundwater monitoring and corrective action in accordance with the Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities.

IV. MEDIA BY MEDIA DISCUSSION OF CONTAMINATION AND THE STATUS OF PLAUSIBLE HUMAN EXPOSURES

Soil:

Leaching of contaminants to underlying soils and groundwater has occurred. However, cover materials do prevent direct contact or exposure to on-site employees. The former wastewater lagoons are also covered. Therefore, no imminent risk of exposure to humans exists due to a lack of a plausible route of exposure.

Therefore, human health exposures to contaminated soils are presently considered to be controlled at T&S Brass.

Groundwater:

Groundwater has been contaminated at T&S Brass and the facility has been operating three bedrock recovery wells since 1990 to control contaminant plume migration. The groundwater contaminant plume extends beyond the northern property boundary and contamination within the saprolite and bedrock aquifers was historically documented beyond the property boundary in downgradient monitoring wells, predominantly in the form of a nickel plume.

The ability of the bedrock recovery well system, located at the northern property boundary, to control the full extent of the offsite lobe of groundwater contamination, is presently considered adequate. The property north of T&S Brass is residential/commercial but groundwater has not been developed for either irrigation or potable supply. However, all groundwater in the state of South Carolina is classified as a potential drinking water supply.

The animal hospital located northeast of T&S Brass and the neighboring residential area were thoroughly investigated by the

writer at the time of the site visit. No evidence of anything but city water service for animals or humans was found. An out-of-service well within a 1/4 mile radius was identified in 1988. The owner of that well could not be located, nor could the actual well head.

Because of the ability of the operating groundwater recovery system to halt further offsite migration, groundwater releases at T&S Brass are considered to be in remediation. An overview of the historic data support the conclusion that the plume has been captured. If the system proves ineffective at any future time, either because of actual changes or further investigation, this RCRIS determination can be changed.

Surface Water:

Drainage from the subject property is best characterized as radial. The surface is a dissected knoll. Drainage likely flows predominantly to a westward tributary that flows to the Reedy River. Drainage from the south side of the plant migrates to a small branch to the south with eventual discharge to the Reedy River. There are no direct discharges of wastes or wastewater from T&S Brass to either of the tributaries near the site. However, indirect discharge may occur through the discharge of contaminated groundwater to surface water, or through surface water run-off from the process area of the site during high intensity rainfall events.

Very little analytical data is available to the writer regarding surface water quality.

Air:

There is no evidence in the Bureau of Land & Waste Management files of contamination to air by the T&S Brass facility.

V. STATUS CODE RECOMMENDATION FOR CA725:

Human exposures to contaminants released into groundwater have been controlled. The facility continues to operate an active groundwater remediation program. Other routes of exposure have not been identified in the course of this investigation. Therefore, it is recommended that CA725 YES be entered into RCRIS.

VI. GROUNDWATER RELEASES CONTROLLED DETERMINATION (CA750)

There are five (5) status codes listed under CA750:

1) YE Yes, applicable as of this date.

2) NA Previous determination no longer applicable as of this date.

3) NR No releases to groundwater.

4) NO Facility does not meet definition

5) IN More information needed.

The status codes for CA 750 are designed to measure the adequacy of actively (e.g., pump and treat) or passively (e.g., natural attenuation) controlling the physical movement of groundwater contaminated with hazardous constituents above relevant action levels. The designated boundary (e.g. the facility boundary, a line upgradient of receptors, the leading edge of the plume as defined by levels above action levels or cleanup standards, etc.) is the point where the success or failure of controlling the migration of hazardous constituents is measured for active control systems. Therefore, every contaminated area at the facility must be evaluated and found to have the migration of contaminated groundwater controlled before a "YE" status code can be entered.

If contaminated groundwater is not controlled in any area(s) of the facility, the NO status code should be entered. If there is not enough information at certain areas to make an informed decision as to whether groundwater releases are controlled, then the IN status code should be entered. If an evaluation determines that there are both uncontrolled groundwater releases for certain units/areas (NO) and insufficient information at certain units/areas of groundwater contamination (IN), then the priority for the EI recommendation should be the NO status code.

This evaluation for CA750 is the first formal evaluation performed for T&S Brass. Please note that CA750 is based on the adequate control of all contaminated groundwater at the facility. The following discussions, interpretations and conclusions on contaminated groundwater at the facility are based on the following reference documents: 1998 Semi-Annual Report (Davis & Floyd) dated July 1998, 1997 Groundwater Corrective Action Report (Davis & Floyd) dated March 1998, the September 1988 Post-Closure Permit Application (portions revised, permit appealed in 1990) as well as notes and observations made on-site on June 24, 1998.

VII. STATUS CODE RECOMMENDATION FOR CA750:

Contaminated groundwater had migrated offsite prior to installation of the three-well recovery system.

Based on the values in the references cited, groundwater contamination offsite exists in the form of a nickel and sulfate plume. In November 1997, the highest detectable concentration of tetrachloroethene was 26.9 micrograms per liter in MW-10. MW-10 is almost immediately adjacent to the northern property line. Similarly, the highest detectable concentration of chromium was found at the property line, in MW-5, which serves as a recovery well. However, because the ability of the operating groundwater recovery system to halt further offsite migration is presently known, groundwater releases at the site as a contributor to human exposures are considered controlled (See CA725 recommendation). However, a status code of CA750 NO is recommended for this site. The values of nickel detected in off-site, downgradient groundwater

exceed Maximum Contaminant Levels established as drinking water standards.

VIII. SUMMARY OF FOLLOW-UP ACTIONS:

A legal opinion on the merits of the appeal of the Post-Closure permit would be helpful. The possibility of resolution seems good, given the work the company has done in remediating groundwater. Exploration of possible ways to motivate the facility to get into permitted status may be in order. This is always an issue with post-closure-only permits which simply "allow" the facility to clean up. A post-closure order may be considered.

Monitoring well MW-1 serves as the background quality monitoring well. MW-1 is at the top of a remnant erosional feature, with a distinct drainage divide between MW-1 and the plume. The entire plant grounds comprise a sort of knoll. A better background groundwater quality monitoring well location could and should be selected.

Given the above referenced recent data indicating groundwater contamination above relevant action levels beyond the property line, consideration should be given to another recovery well located in the vicinity of MW-10 and MW-12.

Finally, either through permitting or enforcement mechanisms, T&S Brass should be required to complete a RCRA Facility Investigation and accompanying Corrective Measures Study Workplan, if necessary.

cc: Region IV EPA
Harriet Gilkerson